

11. Marty sells flux capacitors in a perfectly competitive market. His marginal cost is given by $MC = Q$. Thus, the first capacitor Marty produces has a marginal cost of \$1, the second has a marginal cost of \$2, and so on.
- Draw a diagram showing the marginal cost of each unit that Marty produces.
 - If flux capacitors sell for \$2, determine the profit-maximizing quantity for Marty to produce.
 - Repeat part (b) for \$3, \$4, and \$5.
 - The supply curve for a firm traces out the quantity that the firm will produce and offer for sale at various prices. Assuming that the firm chooses the quantity that maximizes its profits [you solved for these in (b) and (c)], draw another diagram showing the supply curve for Marty's flux capacitors.
 - Compare the two diagrams you have drawn. What can you say about the supply curve for a competitive firm?
 - Assuming fixed costs are zero, redo parts (b) and (c) using calculus methods and confirm that your answers are the same as those solved algebraically.